



Association of Directors of Public Health London and London Environment Directors' Network position: Cleaning up London's air

September 2019

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Summary

Air pollution in London is a major public health issue. Each year nearly 9,500 premature deaths are in part attributable to poor air quality, which widens inequalities by reducing the length and quality of life for our most vulnerable residents, including children, and costs the NHS up to £3.7 billion each year (Walton et al., 2015). We also know that air pollution affects cognitive ability (PHE, 2018).

Health inequalities associated with outdoor air pollution are striking. In 2003, Mitchell and Dorling established that there were clear inequalities in exposure to air pollution based on demography, poverty and car ownership. More recent research has found that in England and Wales young children, adults and households in poverty are more likely to suffer from the effects of traffic than older people and more affluent households. Research carried out by Imperial College London showed that there were higher concentrations of particulate matter and nitrogen dioxide in the most deprived 20% of neighbourhoods in England (Fecht et al., 2014). Air pollution also has an impact on children living in deprived areas. In 2015, 20% of London's primary schools were in areas that breach the legal limit for NO₂ (GLA, 2018a).

Clean air is a joint responsibility of government, the private sector and individuals, and we must take a partnership approach to identifying priorities and funding action to deliver on them. Within London local government, political leaders are making air quality a unifying priority. When boroughs' political and officer leads for environment met in February 2019, they recognised clean air as one of their two most pressing concerns, and since then more than 20 London boroughs have declared climate emergencies. Equally, the Mayor of London has made cleaning up London's air a key priority for his administration.

The London Environment Directors' Network (LEDNet) and the Association of Directors of Public Health London (ADPH London) have prepared this joint position statement to set out how – as senior officers – we believe we should be responding to this challenge, based on our expertise and the available evidence. We support effective solutions that take a whole system approach to tackling poor air quality; this includes considering it within a wider climate change framework.

Road transport is currently the most significant source of emissions in London, and a key priority for the city. The evidence shows that restricting emission of pollutants at source is the most effective means of improving air quality. We therefore support policies and programmes that can do this; where we can encourage residents to embrace active travel by walking, cycling and using public transport instead of driving this will also bring the added benefit of increased physical activity to their overall health and wellbeing. Public transport will of course remain a key means of getting around, which is why subsidies and investment in public transport are also an effective means of tackling air pollution.

There are also considerable static sources of air pollution in London, mainly arising from gas boilers, machinery and construction, and industry. Other sources, including woodburning stoves, accidental fires and burning of waste, along with natural sources, are also contributors. We need new powers at the national and local level accompanied by adequate resources to effectively address these sources.

Tackling poor air quality is everyone's business and we all play a vital part: national agencies, local public services and Londoners themselves. We must therefore help our residents and businesses to understand the issue, its links to inequality and climate change, and how they can change their behaviour to make a positive difference and support interventions that are designed to protect their health. We recognise that technological development (e.g. the ability to work from home, and travel apps) is a major factor in changing the way in which residents and businesses use transport, and that it can be an ally in addressing reducing air pollution. We also recognise that policies need to be designed so that incentives and disincentives work in tandem to create the greatest impact and support behavioural change.

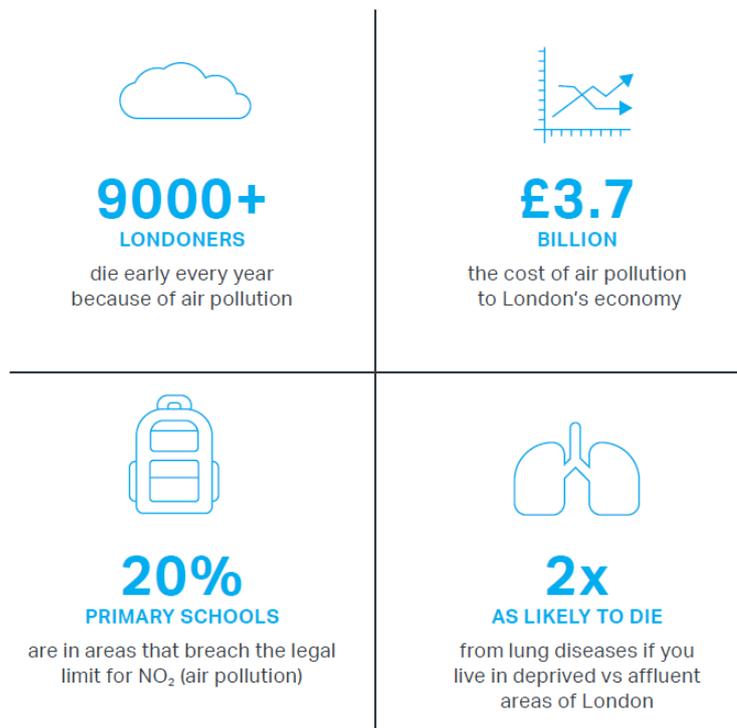


Figure 1 Impacts of air pollution (GLA, 2018)

We make the following recommendations for action:

- Advocating for at least 2.5% of UK annual GDP to be spent on tackling air quality and climate change in the UK, based on the findings of the Intergovernmental Panel on Climate Change;
- Protecting children from exposure to poor air quality by:
 - a) Implementing the Healthy Streets Approach to facilitate walking, cycling and public transport use and to discourage car use;
 - b) Taking action to mitigate pollution hotspots, particularly those around schools, including by taking air quality into account when designed and refurbishing schools and providing green infrastructure barriers where appropriate; and
 - c) Protecting vulnerable populations, including children, older people and those with heart and lung disease, by providing information about less polluted routes and alerts and advice on what to do on high pollution days;
- Supporting a shared and unifying narrative on air quality and public health impacts across London that will change the public's perception of their role in cleaning our air – including the overall benefits of physical activity to most people. This will include a campaign across London to ensure that the public understands the negative impacts of air quality on their health, how they can mitigate these effects and their individual responsibility in reducing air pollution;
- Restricting driving across the city, introducing support schemes such as the Ultra Low Emission Zone (ULEZ), scrappage schemes and local schemes such as restricted and emissions-based parking, low emissions zones and building better walking and cycling infrastructure;
- Using public sector procurement and social value action to reduce our own contribution to air pollution, in particular by moving faster towards ultra-low and zero emissions vehicle fleets; and
- Speaking with one voice as boroughs to secure the resources and powers needed to reduce air pollution and protect the health of our residents.

London's air quality: a public health crisis

Research published in 2019 by Friends of the Earth shows that almost 500 parts of London are exceeding the legal limits for NO₂ (Harvey and McIntyre, 2019). The most polluted places in London have vastly exceeded these limits: in 2016, Putney High Street broke the hourly limit more than 1,200 times. Twenty per cent of primary schools in London are located in areas that breach the legal limit for NO₂ (GLA, 2018a). High levels of particulates mean that all Londoners are regularly exposed to concentrations levels of PM_{2.5} and PM₁₀ that are higher than World Health Organisation (WHO) standards (Centre for London, 2018).

Long term exposure to air pollution causes nearly 9,500 premature deaths in London every year through increased risk of disease such as heart disease, stroke, respiratory disease and cancer (Walton et al., 2015).¹ We also know that air pollution can impact on cognitive ability: research published in the last year has further highlighted links between air pollution and dementia (PHE, 2018). Exposure to air pollution has long-term and short-term effects, and is estimated to cost the NHS between £1.4 and £3.7bn annually in London alone (Walton et al., 2015).

¹ This report only examined NO₂ and PM-related mortality; the true figure of related mortality is therefore likely to be higher.

Public perception is changing: 83% of London residents now think that tackling air pollution should be a priority (London Councils, 2019). London Councils Leaders' Committee has included action on clean air in London Councils' 'Pledge to Londoners'. We also know that there are close links between air quality and climate change, and as of September 2019 nearly three quarters of London's boroughs have passed climate emergency declarations, recognising the need for urgent action on this issue and responding to the increasing public concern.

The principle sources of air pollution in London are road transport (primarily petrol and diesel cars and taxis, buses and HGVs (50%)), domestic and commercial gas, and aviation (see Annex 2). Our position gives greater emphasis to transport, but we recognise all sources, and if and when they come to represent a greater share of emissions our focus areas will be re-evaluated. Continuing to monitor, gather evidence and learn will be an important part of our approach to this issue, and will include identifying evidence gaps and feeding those back through to our partners, including universities, researchers and Public Health England.

How do we achieve clean air in London?

National standards, funding and governance

The Government must put in place binding national standards that can deliver the clean, healthy air that our residents rightly demand. We welcome the Clean Air Strategy's intention to introduce policies that will bring the UK into compliance with the WHO standard; we call on the Government to strengthen this by introducing legal powers to meet the standards by 2030, and setting out a clear plan for achieving them that includes the role that councils should play. The air quality legislation that is expected to be introduced as part of the upcoming Environment Bill will be an opportunity to clarify this situation.

The Government must also clarify how it will fund its air quality commitments. The Intergovernmental Panel on Climate Change have estimated that 2.5% global annual GDP will be needed to limit warming to 1.5°C, and given the close links between climate change and air quality, we are calling for at least 2.5% of UK annual GDP to be spent on tackling air quality and climate change in the UK, and for the UK government to work with other countries to secure comparable commitments (IPCC, 2018). Of course, this should include funding for the air quality responsibilities placed on councils. We are keen to play our part, but we can not accept new unfunded burdens on the already extremely stretched local government sector. However, we believe that along with central government, the private sector and the NHS have a role to play here, recognising that preventative work to reduce air pollution has multiple health and economic benefits.

To support the delivery of these standards, the Government must also put in place an independent environmental watchdog that is adequately funded and empowered to hold the Government to account for these and other environmental targets, including through legal action, the levying of fines and the power to review and require action to reduce air pollution from Government departments and other public bodies, such as Highways England. All bodies must be required to take responsibility for the air pollution under their control, but without such overarching governance, actors at regional and local level cannot be effective. The Government should also provide support to reduce emissions related to nationally significant infrastructure located in London, such as Heathrow airport. It is important that decisions over new airport capacity do not affect the UK's ability to meet EU limit values. Aviation already creates 9% of London's NOx emissions (LAEI, 2016).

At the regional level, we support coordinated efforts between the Greater London Authority (GLA) and boroughs to lobby the Government for the funding and powers to tackle air pollution in London. We also recognise that there is a need for a shared vision and greater coordination across London's boroughs, and between boroughs, the GLA and Transport for London (TfL).

Emissions from transport

Emissions from road transport are currently the most significant source of air pollution in London. We should address both ‘pull factors’ that can encourage use of public transport and active travel, and reducing the contribution of private and commercial vehicles through ‘push’ factors. Whilst we believe ultra-low and zero emission vehicles have a role to play, the evidence shows that restricting driving has the strongest, fastest and most well-evidenced benefits for reducing air pollution (PHE, 2019), in part because all vehicles contribute to particulate pollution through tyre and brake wear. This also enables us to link action on air quality to the need to address carbon emissions.

Incentivising public transport and active travel

We want to see many more Londoners walking, cycling and using public transport, which will result in significant health, social, environmental and economic co-benefits. Already, nearly 75% of trips currently made by car in London are walkable (TfL, 2018a). Investment, incentivisation and fiscal levers of active modes of travel, should be a priority. As it stands, London is excluded from significant government funding for air quality improvements; this is both unjust and ineffective in terms of achieving our national targets.² We call on the government to provide active travel funding to London at levels commensurate with the scale of the challenge and opportunity in London, and in line with funding to local authorities outside the capital. We support the UK Health Alliance on Climate Change’s ask for the Government to increase investment in active travel to at least £10 per capita by 2020.

Public transport in London needs to be environmentally sustainable. The Government should support local government to test new low and zero emission bus technology, including funding from the Clean Bus Technology Fund and other sources. We also welcome the Government’s commitment to eliminating diesel-only trains by 2040.

In London, we welcome the Mayor’s commitment to making the whole bus network zero emission by 2037, but we would like to see this deadline brought forward. In the short-term, all buses operating in London should be required to meet ULEZ standards (Euro VI), not just those operating in the current ULEZ zone. Whilst we welcome the Low Emission Bus Zones, we note that many other such hotspots exist; TfL should engage with the boroughs to identify and address all such areas as we move towards a zero emission transport network. We

urge the Mayor to adopt increasingly stringent standards for these zones, as the technology becomes available. If successful, we would like to see electric buses rolled out across the TfL fleet. Furthermore, TfL should extend their recent review of central London bus routes to outer London in order to increase services

Box 1: Enjoy Waltham Forest increases residents’ ‘life years’ (Dajnak et al., 2018)

- The London Borough of Waltham Forest implemented measures to prioritise pedestrians and cyclists such as segregated cycle lanes, increased pocket parks and timed road closures since 2013
- Across the borough, NO₂ exposure will be reduced by up to 25% and up to 13% for particulate matter by 2020
- The population in Waltham Forest could expect to see an increase in life expectancy of around six weeks if air pollution concentrations improve as projected to 2020, compared with remaining at 2013 concentrations
- People are becoming more active by walking and cycling for longer after these changes to local streets and neighbourhoods

² The Walking and Cycling Investment Strategy identifies £1.2 billion available for these modes to 2020/2021, but London boroughs are not eligible because they are thought to be supported under the funding between for TfL and the Mayor of London. Similarly, public transport investment set out in the Clean Air Strategy is also not available to London boroughs, and neither is public transport or active travel funding under the £220m Clean Air Fund.

and ridership where there is already poor connectivity. More generally, we call for greater involvement of boroughs in bus planning, and greater transparency from TfL over bus planning processes.

In terms of place-shaping for low impact travel, much is already being done, including TfL's Mini Holland programme, which awarded £30m each to three outer London boroughs (Enfield, Kingston and Waltham Forest) to help create a network of cycle routes and improvements to the surrounding streets and public areas along these routes (GLA, 2019b). To deliver on London's aspirations – and aligning with LEDNet's joint statement with the Transport Environment Committee (LEDNet, 2019) – we are looking for the GLA to fund:

- Further join up of cycling and walking routes with high use potential; and
- Accelerated delivery of the Healthy Streets Approach within boroughs.

At local level, LEDNet and ADPH London members will work together across the whole system and with Business Improvement Districts (BIDs), to encourage locally appropriate public transport and active travel measures, including:

- Encouraging walking and cycling amongst residents through awareness-raising;
- Delivering co-implementation of measures through the planning system which can provide multiple benefits, including introduction and maintenance of green infrastructure, linking new developments to public transport nodes and ensuring that they provide links to high quality, safe walking and cycling routes and adequate cycle storage, and prioritising buses and cyclists at junctions where it can improve safety and/ or improve public transport and cycling routes; and
- Incentivising active travel modes through the use of mobility credits, and looking to link these to public health programmes or scrappage schemes.

In terms of enabling local authorities to support positive transport choices, we recommend that support should be given to local authorities and private providers to develop journey planner apps that include live air pollution data, and that the impact of such apps should be evaluated.

Reducing the contribution of private and commercial vehicles to air pollution

The Government must set stronger national standards that will make private and commercial vehicles progressively cleaner, and encourage significant reduction in the use of these vehicles. This should enable us to design out emissions from our transport system at source, whilst providing support and incentives – such as scrappage schemes – to ensure that the burden of transition sits with manufacturers rather than individuals, families and businesses.

We know that vehicles still do not meet the emissions standards they claim, and we call on Government to swiftly introduce legislation that compels manufacturers to recall vehicles for failures in emissions control systems. At the same time, the commitment to end the sale of new conventional petrol and diesel engine cars by 2040 should be tightened and brought forward. As proposed by the National Infrastructure Commission, the sale of new diesel HGVs should be banned no later than 2040. We note that countries like Norway, the Netherlands and India, and cities like Paris, have committed to more ambitious timescales for cleaner vehicles.

This should be complemented by effective long-term fiscal incentives to support the adoption of the cleanest private and commercial vehicles. The evidence around effective air quality interventions strongly supports the introduction of national road pricing (and shows that this would have other significant co-benefits), and local road pricing such as we see in London's ULEZ. Other effective measures that should be considered together as a package include increasing fuel duty on more polluting vehicles and/ or introducing a diesel surcharge on Vehicle Exercise Duty (VED), increasing the 3% diesel surcharge under the Company Car Tax regime, supporting abatement retrofitting for vehicles already on the road, and introducing scrappage schemes. We also strongly support calls for London to receive its fair share of VED.

We strongly support the two scrappage schemes introduced by the Mayor, for vans and to support low income families. However, like the Mayor we believe that these must be complemented with a national scrappage scheme; we note that scrappage scheme can have a negative impact on inequality without careful consideration, and that this must be addressed in their design.

We recognise the Mayor's action on taxis, but it is still the case that non-ULEZ compliant taxis could still be operating in London up to 2034. This is not acceptable in light of the public health challenge that air pollution represents, and we call on the Mayor to ensure that no non-ULEZ compliant taxi is operating in London beyond 2025.

In London, we believe that the ULEZ should become a Zero Emission Zone, to keep pace with technological development and achieve the highest levels of air quality. In the long-term, we would support consideration of an integrated road pricing scheme in London, the revenues from which should be invested in the public transport and active travel. In the meantime, we offer to work with the GLA to support schemes that will improve air quality in boroughs that are outside of – or are bisected by – the ULEZ, as it expands. In parallel, the GLA and TfL should fund further low emission zones, which can deliver multiple environment and health benefits, and create a joined up strategy to deliver the modal share aim and reduce air pollution, including by recognising and reducing the very significant contribution of London's TfL-owned 'red routes.'

To complement these 'push' factors, the Government should support accelerated roll-out of charging infrastructure for low and zero emission vehicles, and we will push for an agreed strategic plan for the location of sufficient residential, car club and rapid charge points to meet projected demand, including through engagement with the Electric Vehicle Infrastructure Delivery Plan.

We want to see those businesses operating fleets taking the lead in transitioning to the lowest possible emissions in the shortest possible time, aided by funding from scrappage schemes and progressive public sector procurement. The NHS are likely to be one of the largest organisations in local areas, and should be front runners in this transition. Businesses should also explore innovative methods of taking vehicles off the road and reducing congestion, for example through greater use of back-hauling, shared deliveries and local consolidation centres. All businesses should consider consolidating services such as waste and recycling collection with neighbouring businesses, or via local BIDs.

The GLA needs to use their funding routes to support these activities and action to reduce vehicle use. In recent years, Local Implementation Plan (LIP) funding has enabled boroughs to fund a wide range of interventions, from road safety engineering to cycling facilities to parking management projects. However, the LIP budget is under constant threat of being cut in future business planning rounds. Locally-led projects are precisely those that can cumulatively deliver the modal shift that Londoners need to see, and we call on the Mayor to guarantee at least current levels of funding for the next three business planning rounds.

At the local level, LEDNet and ADPH London members will encourage action to reduce vehicle use, and adopt zero and low emission vehicles, including by:

- Restricting parking (for example via introducing local congestion charging, controlled parking zones, workplace parking levies, emissions-based parking permits and surcharges);
- Restricting driving via planning and development measures (for example, restricting parking availability in new developments, investing in green infrastructure, introducing coordinated Low Emission Zones, and evaluating the impact of other road alteration schemes such as phased traffic lights);
- Exploring a requirement for freight consolidation centres in areas of significant development or redevelopment, through Supplementary Planning Documents;
- Using public procurement (for example, to reduce the emissions from our own fleets and those of our contractors);

- Installing low emission charging infrastructure;
- Supporting shared mobility, including bike and car sharing schemes, which have additional health co-benefits;
- Engaging with schools and parents to reduce number of children being driven to school, for example through the introduction of school streets, and to evaluate the impacts of such schemes;
- Supporting exposure reduction programmes through planning and public engagement, which can also have a positive impact on reducing health inequalities;
- Promoting ‘eco-driving’ schemes (smooth driving, speed reduction and anti-idling) that supports clean air, including promoting and enforcing anti-idling; this can reduce air pollution emissions and increase safety; and
- Promoting adherence to recently published NICE guidance on air pollution, which contains recommendations based on most recent evidence (NICE, 2019).

Emissions from the built environment

Reducing emissions via planning and development

Nationally, planning policy and building standards should lead the way in promoting a healthy, low emission built environment, which will also help to tackle climate change and health inequalities, as well as delivering protection from industrial emissions.³

The forthcoming Environment Bill should require all new and replacement boilers to meet an ultra-low NO_x standard, to complement the proposed restrictions – managed at the regional level – on Combined Heat and Power and other fixed sources.

We also believe that the Government should act to address emissions from buildings from wood and solid fuel burning, by enabling local authorities to declare and change smoke control areas (SCAs), making the offence under an SCA of solely not using an approved appliance or fuel (rather than basing it on visible smoke) and reforming enforcement of the Clean Air Act to make it more efficient and aligned with contemporary norms (e.g. nuisance).

At the London level, the new draft London Plan encourages new developments to take air quality into account, by requiring that they meet the existing air quality neutral requirements; large-scale developments must be Air Quality positive. On the specific issue of gas boilers, we would like the Mayor to support new low carbon heating solutions for the capital, in collaboration with the boroughs. For example, we would welcome trials for low carbon gases, or electrified heating solutions.

³ There are strong synergies between air quality and energy efficiency. In addition to building standards, we therefore believe that fiscal policies could give greater weight and priority to energy efficiency in commercial and domestic properties, including through linking the Stamp Duty system to the energy performance of a dwelling to create an incentive for homebuyers to purchase a more efficient dwelling, and reforming mortgage affordability tests to better reflect the energy performance of a dwelling, and to encourage lenders to offer energy efficiency mortgages.

Locally, we recommend that boroughs include policies in their Local Plans that set expectations for new developments – whatever their size - to mitigate air quality impacts, including via green infrastructure provision and join up. Furthermore, all new developments should be required to ensure adequate, secure cycle storage for each new home (as stipulated in the London Plan) and they should be required to provide plug-in technology for hybrid/electric vehicles in non-car-free developments. There are many examples of where planning gain has had a positive impact on local air quality or has been used to offset potential detrimental effects to local air quality; in order to secure contributions, this approach should be set out in strategic documents such as Core Strategies and Area Action Plans for individual boroughs (see Box 2). Boroughs can also produce Supplementary Planning Documents on air quality to fully embed air quality within the planning process, since these must be considered in development proposals and can be used in determining planning applications.

Box 2: Enabling clean air through planning

The London Borough of Greenwich secured:

- A 'low emission zone' for the development and construction of the Warren development;
- Strategic Travel Plan, low emission zone and air quality monitoring station secured for Greenwich Peninsula masterplan;
- Greenwich Millennium Village – emission based parking policies; and
- Ten electrical vehicle charging points.

For a superstore opening in the Zone, requirement for 50% of delivery vehicles and 50% of home delivery vehicles to meet the Euro V standard.

At the same time, consideration should be given to the costs to developers, and how these can be mitigated, where appropriate. We should be supporting progressive companies to innovate, in ways that increase public benefit.

In order to be effective, air quality planning policies need to be integrated with wider policies of the Local Plan and a borough's Air Quality Action Plan. Boroughs must also enforce planning policy locally, and give sufficient weight to air quality in planning negotiations. We will work with boroughs to support a review of Local Plans to identify and support greater link up through policy and officer support.

Reducing emissions from construction and industry

Emissions from Non-Road Mobile Machinery (NRMM) are the third greatest source of NO_x in London and the second largest source of PM_{2.5}; we believe that there is scope to reduce these.

At national level, we support the call for the Government to introduce local powers to set and enforce emission zones for NRMM, including construction equipment (Barrett, 2019). This would provide much-needed extra strength to the existing NRMM Low Emission Zone in London, the effectiveness of which is constrained because it only applies to some sites and is created through planning conditions. A simpler zonal scheme would increase the effectiveness of the restrictions, make it easier and more efficient to enforce and include other significant uses of NRMM, such as road works and events.

Evidence suggests that some of the most effective methods of reducing air pollution are to require industrial developments to undertake abatement measures for both primary *and* secondary sources of dust, NO_x and sulphur dioxide, with effective inspection and enforcement regimes. Such action has additional co-benefits beyond reducing air pollution.

At London level, we believe that the GLA should expand the lane rental scheme to boroughs roads, to better allow boroughs to manage the pollution impacts of construction and roadworks.

At local level, LEDNet members will work together to identify more effective methods of enforcement, including, if necessary, a review of licences and approvals to draw out best practice across the capital.

Monitoring and raising awareness of air pollution

A lack of public awareness around the sources and impacts of air pollution emission is widely acknowledged, and means that it is even more challenging for people to take individual responsibility for reducing emissions. It can also prevent individuals doing all they can to protect themselves from air pollution, yet the evidence suggests that reducing exposure to emissions is a very effective public health measure. Awareness-raising and related communications measures must measurably lead to behaviour change, particularly amongst those most exposed to air pollution. But it must also support calls for change that reduce overall air pollution to safe levels. Boroughs can support this by using information more effectively, including through segmentation of our audiences. We can also build on existing good practice, such as Defra's six principles for communication about air quality (Defra and PHE, 2017).

LEDNet, ADPH London and London Councils will work together to create and drive a shared narrative that reframes sustainable travel as an easier choice, making links to wider health and wellbeing benefits. We will use messaging that reaches hearts and minds, use behavioural insights, and communicate internally, externally and across the whole system (including TfL, Public Health England, GLA and the NHS). Encouraging Londoners to make a positive shift in transport choices will drive political leadership, further resources for sustainable transport and reduce car use, creating a social movement. As part of this, we will consider whether information on air quality status and activities is readily accessible to the right people at the right times, including both residents and local authorities. We will also look at a campaign across London which ensures that the public understands the negative impacts of air quality on their health, how they can mitigate these effects and their individual responsibility in reducing air pollution.

We also commit to working in our boroughs to improve cross-departmental working to ensure that functions like transport planning deliver across multiple council priorities. In particular, we propose that air quality data should be included in Joint Strategic Needs Assessments so that Health and Wellbeing Boards, and other local partners, have the information they need to act.

We would encourage the NHS to raise awareness of what the general public can do to reduce exposure to air pollution, and the role they as individuals can play in reducing emissions. The Healthy London Partnership Air Quality toolkit for NHS has a range of suggestion that NHS could support taking forward to address this agenda, including monitoring air quality in and around hospitals (Healthy London Partnership, 2018).

Finally, given the scale of the problem in London, we believe central government should provide more funding to improve and maintain the current air quality monitoring network in London. And in London, the Mayor should work with boroughs that consider that the new LLAQM system would increase the reporting burden and require them to transfer funds from schemes to improve air quality.

Detailed asks and offers

Area	Position	Lead
National standards, funding and governance		
	Introduce a legal obligation to meet WHO air quality standards by 2030	Defra
	Commit to a target % of annual GDP to be spent on tackling air pollution and climate change	HMT, Defra, BEIS
	Set out a clear plan for achieving the WHO standards, including the role that councils should play and how that will be funded	Defra, MHCLG, DfT
	Put in place an independent environmental watchdog that is adequately funded and empowered to hold the Government to account	Defra
	Provide support to reduce emissions related to nationally significant infrastructure located in London, such as Heathrow airport, and ensure that decisions over new airport capacity do not affect the UK's ability to meet EU limit values	DfT, Defra
Emissions from transport		
Public transport	Invest in and subsidise public transport and active travel at levels commensurate with the scale of the challenge and opportunity in the city	DfT, Defra, MHCLG
	Support to local government to test new low and zero emission bus technology	Government
	In the long-term, bring forward the deadline for the whole London bus network to be zero emission	GLA, TfL
	In the short-term, ensure that all buses operating in London should be required to meet ULEZ standards (Euro VI) as soon as possible	GLA, TfL
	TfL should engage with the boroughs to identify and address all air pollution hotspots, particularly around schools, and adopt increasingly stringent standards for these zones, as the technology becomes available	GLA, TfL
	Extend the review of central London bus routes to outer London	GLA, TfL
Active travel	Fund work to join up cycling and walking routes with high use potential	GLA, TfL
	Fund accelerated delivery of the Healthy Streets Approach	GLA, TfL
	Work together, and with BIDs, to encourage locally appropriate public transport and active travel measures, including co-implementation of measures through the planning system, and incentivising active travel modes	London boroughs, BIDs
Reducing driving and emissions from vehicles	Introduce legislation to compel manufacturers to recall vehicles for failures in emissions control systems	DfT
	Tighten and bring forward the ban on the sale of new conventional petrol and diesel engine cars to before 2040	DfT
	Ban the sale of new diesel HGVs no later than 2040	DfT
	Consider introducing national road pricing	DfT
	Increase fuel duty on diesel vehicles and / or increase Vehicle Exercise Duty on diesels	DfT

	Increase the 3% diesel surcharge under the Company Car Tax regime	DfT
	Ensure that London receives its fair share of VED	DfT
	Support abatement retrofit	DfT
	Introduce a national scrappage scheme for diesel vehicles	DfT, Defra
	Ensure that no taxi that is not ULEZ compliant is operating in London beyond 2025	GLA
	Support schemes that will improve air quality in borough that are outside of – or are bisected by – the ULEZ, as it expands	London Councils, LEDNet, GLA, TfL
	Fund further low emission zones	GLA, TfL
	Create a joined-up strategy to deliver the modal share aim and reduce air pollution, including by recognising the reducing the very significant contribution of London’s TfL-owned ‘red routes’	GLA, TfL, London Councils
	Support accelerated roll-out of charging infrastructure for low and zero emission vehicles	DfT, Defra
	Advocate for an agreed strategic plan for the location of sufficient residential, car club and rapid charge points to meet projected demand	LEDNet
	Transition fleets to the lowest possible emissions in the shortest possible time	Business
	Consider consolidating services such as waste and recycling collection with neighbouring businesses, or via local BIDs	Business
	Guarantee at least current levels of LIP funding for the next three business planning rounds	GLA
Support effective and locally-appropriate policies to reduce vehicle use, and encourage adoption of zero and low emission vehicles	LEDNet	
Emissions from the built environment		
Planning and development	Require all new and replacement boilers to meet an ultra-low NO _x standard	Defra
	Enable local authorities to declare and change smoke control zones (SCZs), making the offence under an SCZ of solely not using an approved appliance or fuel (rather than basing it on visible smoke)	Defra
	Reform enforcement of the Clean Air Act to make it more efficient and aligned with contemporary norms (e.g. nuisance)	Defra
	Support new low carbon heating solutions for the capital	GLA
	Include policies in Local Plans to set expectations for new developments – whatever their size - to consider mitigation of air quality impacts	Boroughs
	Support a review of Local Plans to identify and support greater link up through policy and officer support	LEDNet
Construction and industry	Introduce local powers to set and enforce emission zones from NRMM, including construction equipment	Defra
	Require industrial developments to undertake abatement measures for both primary and secondary sources of dust, NO _x and sulphur dioxide, and implement effective inspection and enforcement regimes	Boroughs

	Expand the lane rental scheme to boroughs roads	GLA
	Identify more effective methods of enforcement, including, if necessary, a review of licences and approvals	LEDNet
Monitoring and awareness		
	Create and drive a shared narrative that reframes sustainable travel as a desirable choice, making links to health and wellbeing benefits, including clean air, including a pan-London campaign.	LEDNet, ADPH London, TfL, GLA, NHS, HLP
	Consider the development of a single access point to capture activity to improve air quality, helping to share learning and experience and avoid duplication.	LEDNet, ADPH London, GLA
	Provide more funding to improve and maintain the current air quality monitoring network in London	Defra
	Improve cross-departmental working, and ensure that air quality data is included in Joint Strategic Needs Assessments	LEDNet
	Provide information about less polluted routes and alerts and advice on what people can do on high pollution days. Helping to protect vulnerable populations, including children, but also older people and those with heart and lung disease.	LEDNet, ADPH London, London boroughs

Annex 1: Assessment of the effectiveness of air quality policies

Policy area	Our position	Supporting evidence
Standards and governance		
<i>National standards</i>	<ul style="list-style-type: none"> Introduce a legal obligation to meet WHO air quality standards by 2030 	<ul style="list-style-type: none"> The World Health Organisation has recommended these standards.
<i>National enforcement</i>	<ul style="list-style-type: none"> Put in place an independent environmental watchdog that is adequately funded and empowered to hold the Government to account 	<ul style="list-style-type: none"> Upon leaving the EU, we will need a replacement for the environmental compliance assurance mechanism that the European Commission currently provides.
<i>National infrastructure</i>	<ul style="list-style-type: none"> Provide support to reduce emissions related to nationally significant infrastructure located in London, such as Heathrow airport 	<ul style="list-style-type: none"> Aviation emissions contribute 9% of NOx emissions and 5% of CO2 emissions (LAEI 2016).
Transport		
<i>Active travel</i>	<ul style="list-style-type: none"> Provide active travel funding to London at levels commensurate with the scale of the challenge and opportunity in the city Incentivising active modes through the use of mobility credits, and looking to link these to public health programmes or scrappage schemes Work together through BIDs to improve walking and cycling routes and their usage Fund further joining up of cycling and walking routes across high use routes Ensuring that new developments provide adequate cycle storage and links to safe, high quality cycle routes Prioritising cyclists at junctions 	<ul style="list-style-type: none"> Encouraging cycling and walking routes can create public health co-benefits, although there is limited evidence of their ability to improve air quality public health outcomes nationally or locally; the evidence base was weak (PHE 2019). 'Active travel interventions at a limited scale do not generally improve air quality significantly, but the added physical exercise benefit makes them very effective transport interventions for improving public health outcomes'; 'Almost all studies reported positive results linked to increasing physical activity and active travel' (PHE 2019, p.50, 62).

<i>Public transport</i>	<ul style="list-style-type: none"> • Support to local government to test new low and zero emission bus technology • Ensure that all buses operating in London are required to meet ULEZ standards (Euro VI) as soon as possible • Bring forward the deadline for the whole London bus network to be zero emission • Tackle all bus-related hotspots, and adopt increasingly stringent standards for these zones, as the technology becomes available • Extend the review of central London bus routes to outer London 	<ul style="list-style-type: none"> • Using new – i.e. lower emission – buses for the most polluted routes is potentially effective in improving AQ public health outcomes locally; the evidence base is weak (PHE 2019). • Evidence from London’s low emission bus zones shows that uses buses that meet or exceed Euro VI standards reduced emissions by 87 – 92% (GLA 2018). • ‘Renewal of the bus fleet significantly benefits air quality’ (Titos 2015).
	<ul style="list-style-type: none"> • Invest in/ subsidise public transport • Link new developments to public transport nodes 	<ul style="list-style-type: none"> • Subsidising public transport has the potential to improve AQ public health outcomes locally; the evidence base is weak (PHE 2019). • ‘Evidence showed people who took up a free bus pass were more likely to use public transport and, therefore, less likely to use their car and contribute to air pollution’ (PHE 2019, p.67).
<i>Reducing car use</i>	<ul style="list-style-type: none"> • National road pricing 	<ul style="list-style-type: none"> • National road pricing is fully effective at improving AQ public health outcomes locally and nationally; the evidence base is weak (PHE 2019). • Other studies provide evidence that the most cost-effective single intervention is road pricing’ (PHE 2019, p.64).
	<ul style="list-style-type: none"> • Fund further low emission zones • Introduce ‘schools streets’ within boroughs 	<ul style="list-style-type: none"> • Low emission zones can be effective at improving air quality public health outcomes nationally and locally; it found limited evidence for their potential to create public health co-benefits; the evidence was medium strength in relation to transport, but weak in relation to planning interventions (PHE 2019). • Driving restrictions are fully effective in improving AQ public health outcomes locally; the evidence base is strong (PHE 2019). • The first month of the ULEZ has seen a 10% increase in the compliance rate with ULEZ standards, and around 9,400 fewer older more polluting vehicles seen in the zone on an average day (GLA 2019).

		<ul style="list-style-type: none"> • ‘Our analyses indicate that there is a statistically significant, but rather small reduction of NO₂, NO, and NO_x concentrations associated with LEZs’ (Morfeld 2014).
	<ul style="list-style-type: none"> • Introduce controlled parking zones 	<ul style="list-style-type: none"> • ‘Parking management was found to be cost effective [as an intervention to reduce air pollution]’ (PHE, 2019, p.188).
	<ul style="list-style-type: none"> • Introduce workplace parking levies 	<ul style="list-style-type: none"> • Workplace parking levies have potential to improve AQ public health emissions locally, though there is limited evidence that they can create public-health co-benefits, and may have a negative impact on improving inequalities (PHE 2019). • ‘Parking management (involves reducing or removing the free parking for employees on-site) was also found to be cost effective at reducing trips to work’ (PHE 2019, p.64).
	<ul style="list-style-type: none"> • Introduce more green infrastructure 	<ul style="list-style-type: none"> • Establishing green infrastructure has potential to improve AQ public health outcomes locally; the evidence base is weak (PHE 2019). • Green infrastructure is potentially effective not only to improve air quality related public health outcomes, but also to improve health inequalities in urban areas and promote our health and well-being (PHE 2019). • ‘There is evidence that appropriately designed urban green infrastructure can improve air quality and reduce exposure to noise on a local scale but should not be used in isolation to address air pollution’ (PHE 2019, p.77).
	<ul style="list-style-type: none"> • Introduce phased traffic lights 	<ul style="list-style-type: none"> • Active traffic light management has limited potential to improve AQ public health outcomes; the evidence base is weak (PHE 2019).
	<ul style="list-style-type: none"> • Supporting shared mobility, including bike and car sharing schemes, which have additional health co-benefits 	<ul style="list-style-type: none"> • Promoting car sharing is potentially effective in improving AQ public health outcomes; the evidence base is weak (PHE 2019). • Encouraging cycling and walking routes can create public health co-benefits, although there is limited evidence of their ability to improve air quality public health outcomes nationally or locally; the evidence base was weak (PHE 2019).
	<ul style="list-style-type: none"> • Support exposure reduction programmes 	<ul style="list-style-type: none"> • Exposure reduction programmes are potentially effective in improving AQ public health outcomes; they have limited effectiveness in creating public health co-benefits, but they have potential to improve inequalities; the evidence base is of mixed strength (PHE 2019). • ‘Closing streets to private traffic... significantly benefits air quality’ (Titos, 2015).

	<ul style="list-style-type: none"> Promote 'eco-driving' schemes (smooth driving, speed reduction and anti-idling), including promoting and enforcing anti-idling 	<ul style="list-style-type: none"> As behavioural interventions, eco-driver training and anti-idling campaigns are potentially effective in improving air quality public health outcomes locally; eco-driver training has potential to create public health co-benefits, on for example safety, although anti-idling campaigns may only have a limited effective in this regard; the evidence base was of medium strength, but with significant uncertainty (PHE 2019). As a transport intervention, eco-driving has limited effectiveness in improving AQ public health outcomes locally, although the evidence suggests that improved anti-idling enforcement has potential to effective in this regard; the evidence base was weak in both cases (PHE 2019). Local authorities can implement no-idling zones in areas with vulnerable population (for example, schools, hospitals, care homes) (PHE 2019, p.56).
	<ul style="list-style-type: none"> Consolidate services such as waste collection and deliveries 	<ul style="list-style-type: none"> Business waste consolidation can reduce air pollution by more than 90% (TfL, 2018).
<i>Introducing cleaner vehicles</i>	<ul style="list-style-type: none"> General 	<ul style="list-style-type: none"> Air quality within urban areas is likely to be improved by any intervention that promotes the uptake of low and zero-exhaust emission vehicles, particularly electric vehicles (PHE 2019, p.50).
	<ul style="list-style-type: none"> Introduce legislation to compel manufacturers to recall vehicles for failures in emissions control systems 	<ul style="list-style-type: none"> Driving restrictions are fully effective in improving AQ public health outcomes locally; the evidence base is strong (PHE 2019). 'The evidence from this rapid evidence assessment suggested that planning interventions are crucial for improving air quality and reducing population exposure to air pollution. The interventions with the highest potential to be effective both at national but mainly at local scale are related to traffic. This review showed that driving restrictions produced the largest scale and most consistent reductions in air pollution levels, with the most robust studies' (PHE 2019, p.82). 'Mueller et al [2017] predicted that a reduction in motor traffic with the promotion of active transport and the provision of green infrastructure would result in a considerable burden of disease avoided and substantial savings to the health care system' (PHE 2019, p.67). Co-implementation of various planning measures (e.g. green infrastructure and restrictions on driving) is fully effectively in improving air quality public health outcomes locally, and is potentially effective in improving public health co-benefits and improving inequalities; the evidence base was weak (PHE 2019).

	<ul style="list-style-type: none"> Local congestion charges 	<ul style="list-style-type: none"> Local congestion charges are potentially effective in improving air quality public health outcomes locally, but they have potential negative impacts on improving inequalities (PHE 2019).
	<ul style="list-style-type: none"> Installing low emission charging infrastructure 	<ul style="list-style-type: none"> Development of EV charging infrastructure is potentially effective in improving AQ public health outcomes locally; the evidence base has medium strength (PHE 2019). 'The use of alternative fuels would also require significant investment in recharging/refuelling infrastructure by individuals, businesses and developers, as well as grants and subsidies from local authorities and government' (PHE 2019, p.55). 'Vehicle choice (i.e. the impact of consumer choice) can reduce air pollution if it leads to the removal of the most polluting vehicles from the roads or the replacement of one vehicle with another, less polluting, vehicle' (PHE 2019, p.123). 'The increase in electric vehicles has shown a high impact on emission reduction of PM, SO₂, oxides of nitrogen, volatile organic compounds and carbon monoxide' (PHE 2019, p.54).
	<ul style="list-style-type: none"> Ban the sale of new diesel HGVs no later than 2040 	<ul style="list-style-type: none"> Diesel HGVs contribute 8% of London's NO_x emissions (LAEI, 2016) 'A clean, low cost freight revolution by 2050 is possible if government and industry work to embrace alternatives to diesel... Government should commit to achieving zero freight emissions by 2050 and identify the infrastructure requirements to support the transition, giving the freight and vehicle industries time to plan and adapt' (NIC 2019).
	<ul style="list-style-type: none"> Increase fuel duty on diesel vehicles and / or increase Vehicle Exercise Duty on diesels Increase the 3% diesel surcharge under the Company Car Tax regime 	<ul style="list-style-type: none"> Increasing fuel duty on diesel vehicles is fully effective at improving AQ public health outcomes locally; however, it may have a negative impact on improving inequality, which needs to be managed; the evidence base is weak (PHE 2019). 'A study focusing on the Republic of Ireland highlighted that increases in car taxation to drive decarbonisation of fleets reduced NO_x emissions' (PHE 2019, p.59).
	<ul style="list-style-type: none"> Support abatement retrofit 	<ul style="list-style-type: none"> Supporting abatement retrofit is fully effective at improving AQ public health outcomes locally; the evidence base is weak (PHE 2019).
	<ul style="list-style-type: none"> Introduce a national scrappage scheme for diesel vehicles 	<ul style="list-style-type: none"> Scrappage schemes are potentially effective in improving AQ public health outcomes locally; the evidence base has medium strength (PHE 2019).

		<ul style="list-style-type: none"> • Scrappage schemes have been recommended by IPPR (Laybourn-Langton 2016) and by Policy Exchange (Howard 2016)
	<ul style="list-style-type: none"> • Emissions-based parking permits and surcharges 	<ul style="list-style-type: none"> • ‘Very effective interventions for enhancing public health were... congestion and parking charges, which can help reduce car use’ (PHE 2019, p.59).
Built environment		
<i>Heating</i>	<ul style="list-style-type: none"> • Require all new and replacement boilers to meet an ultra-low NO_x standard • Support new low carbon heating solutions for the capital 	<ul style="list-style-type: none"> • Domestic gas combustion accounts for 6% of NO_x emissions, and a further 10% comes from industrial and commercial gas combustion (LAEI 2016)
<i>Industrial emissions and non-road mobile machinery</i>	<ul style="list-style-type: none"> • Require industrial developments to undertake abatement measures for both primary and secondary sources of dust, NO_x and sulphur dioxide, and implement effective inspection and enforcement regimes • Introduce local powers to set and enforce emission zones from NRMM, including construction equipment 	<ul style="list-style-type: none"> • Primary abatement of NO_x and SO₂, and secondary dust abatement from industry is fully effective at improving air quality public health outcomes locally; the evidence base is strong (PHE 2019). • Primary VOC abatement and secondary abatement of NO_x, SO₂ and VOC are all fully effective at increased air quality public health outcomes locally; the evidence base is of medium strength (PHE 2019).
Monitoring and awareness		
<i>Public awareness</i>	<ul style="list-style-type: none"> • Understanding the needs of different groups of residents in order to better support their active travel choices • Undertaking public engagement work that can help people to make active travel choices • Create and drive a shared narrative that reframes sustainable travel as a desirable choice, making links to health and wellbeing benefits, including clean air • Support the development of a single portal for air quality information 	<ul style="list-style-type: none"> • Public engagement is potentially effective in improving air quality public health outcomes locally, and public health co-benefits; the evidence base was weak (PHE 2019).

Annex 2: Sources of air pollution in London



Figure 1: NOx sources in Greater London in 2016 (LAEI 2016)



Figure 2: PM₁₀ sources in central London in 2016 (LAEI 2016)

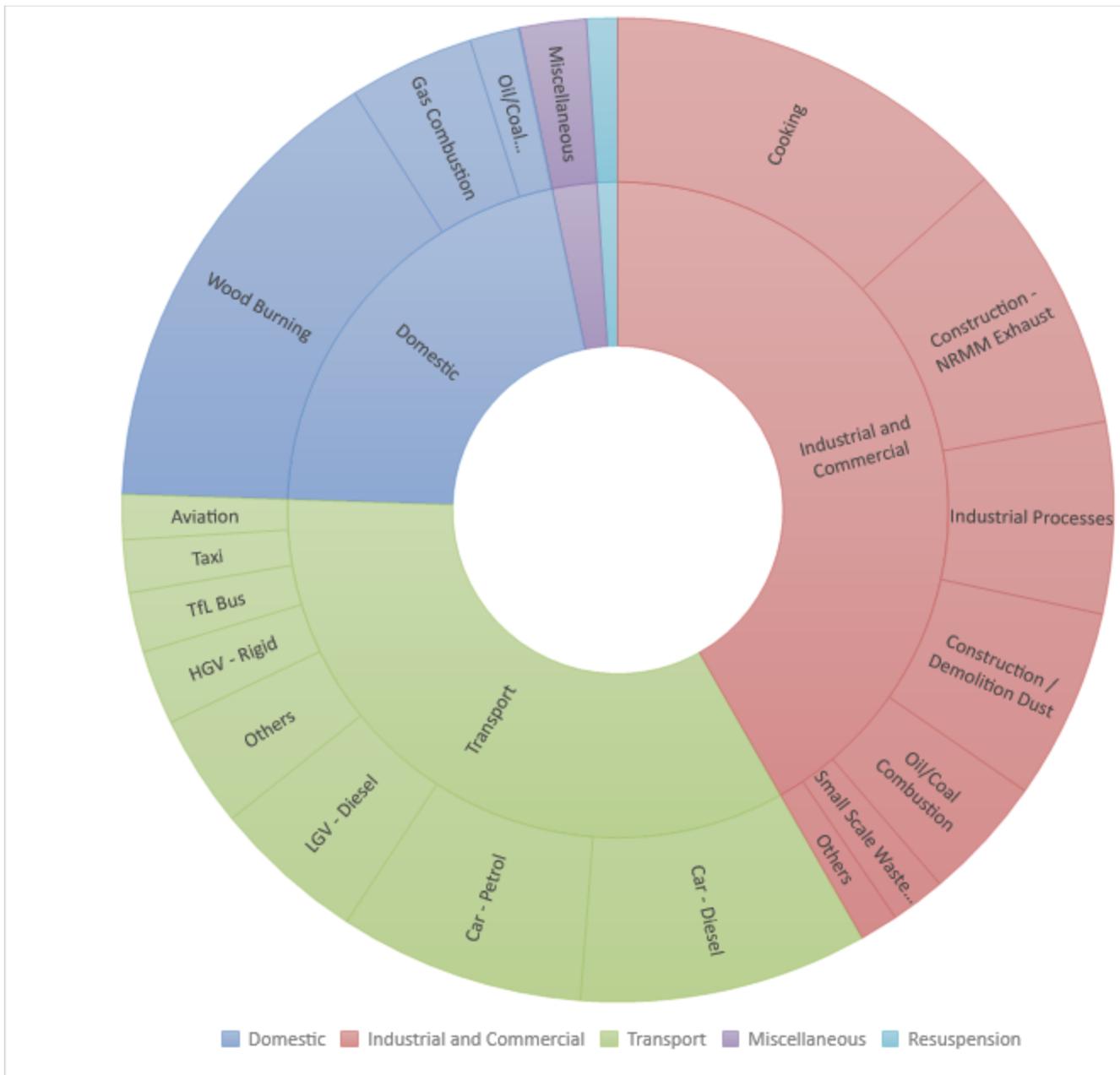


Figure 3: PM_{2.5} sources in central London in 2016 (LAEI 2016)



Figure 4: CO₂ sources in central London in 2016 (LAEI 2016)

Particulates (PM_{2.5} and PM₁₀) and Nitrogen Dioxide (NO₂) are commonly seen as the most dangerous forms of air pollution due to their high concentrations and the negative health impacts they create; this position focuses on these pollutants, but we recognise that Sulphur dioxide (SO₂), ozone and occasionally carbon monoxide can also impact health and the environment. We have also included information about CO₂, recognising the extensive overlap between actions that reduce air pollution, and those that tackle climate change.

Annex 3: Air quality regulatory framework

The regulatory framework for controlling air pollution in the UK comprises, the Environment Act 1995, the Air Quality Standards Regulations 2000 and the Air Quality (Amendment) Regulations 2010. All are based on EU Directives, which are themselves aligned with the UN Convention on Long-Range Transboundary Air Pollution.

The Regulations set out our EU-derived national targets for PM_{2.5}, PM₁₀ and NO₂ by 2020 (see Annex 3), of which we are in breach.⁴ The European Court of Justice has ruled that the UK must put in place a plan to achieve air quality limits in the “shortest time possible”, and this has driven the production of a new national Clean Air Strategy, published in February 2019.

Local authorities have a responsibility, under the Environment Act 1995, for meeting the air quality targets via the designation of Air Quality Management Areas (AQMAs) for places that exceed air quality targets, with associated Air Quality Action Plans (AQAP) containing measures to reduce air pollution.

The London Environment Strategy (LES) and the Mayor’s Transport Strategy (MTS) set out the policy direction for air quality in the capital, with the aim for London to have “the best air quality of any major world city by 2050, going beyond the legal requirements to protect human health and minimise inequalities.” We welcome this ambition, although there are areas where further action is needed to realise it.

Borough-level management of AQMAs and AQAPs is overseen by the London Local Air Quality Management system for London (LLAQM), and the LES commits to using the LLAQM to assist and require boroughs to tackle air quality. All 32 boroughs and the City of London have designated AQMAs and are therefore required to produce an AQAP.

Pollutant	EU limit level	Averaging period	WHO limit level
PM _{2.5}	25 µg/m ³	1 year	10 µg/m ³
	None	24 hours	25 µg/m ³
PM ₁₀	50 µg/m ³	24 hours	50 µg/m ³
	40 µg/m ³	1 year	20 µg/m ³
Sulphur Dioxide (SO ₂)	None	10 minutes	500 µg/m ³
	350 µg/m ³	1 hour	None
	125 µg/m ³	24 hours	20 µg/m ³
Nitrogen dioxide (NO ₂)	200 µg/m ³	1 hour	200 µg/m ³
	40 µg/m ³	1 year	40 µg/m ³
Carbon monoxide (CO)	10 mg/m ³	Maximum daily 8 hour mean	None

Table 1: EU and WHO limit levels for pollutants (differences given in blue)

⁴ The National Emission Ceilings Regulations 2018 set out national targets for the same pollutants by 2030. Limits are structured so that there are a maximum number of exceedances allowed at hourly and annually averages.

Annex 4: About us

London Environment Directors' Network

LEDNet is the membership association for London's Environment Directors. Together, they develop research, trial new interventions and undertake policy advocacy at a regional and national level, to achieve enhanced environmental outcomes, increase adoption of best practice and successful innovation, and deliver more cost effective outcomes for London residents.

Association of Directors of Public Health – London

The Association of Directors of Public Health (ADPH) is the representative body for Directors of Public Health (DsPH) in the UK. It seeks to improve and protect the health of the population through collating and presenting the views of DsPH; advising on public health policy and legislation at a local, regional, national and international level; facilitating a support network for DsPH; and providing opportunities for DsPH to develop professional practice. The Association has a rich heritage, its origins dating back 160 years. It is a collaborative organisation working in partnership with others to maximise the voice for public health.

ADPH has published a policy position on outdoor air quality in November 2018. It has been developed in partnership with the membership and led by the ADPH Air Pollution Policy Advisory Group. We welcome an opportunity to use our national policy statement and work with LEDNet to develop joint London Air Quality Statement.

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